

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:	
Craig N. Eatough, et al.	Docket: 8333
Serial No.:09/954,603	Art Unit: 1764
Filed: September 17, 2001	Examiner: Alexa A. Doroshenk
For: CLEAN PRODUCTION OF COKE	

**DECLARATION OF L. DOUGLAS SMOOT, PH.D.**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

I, L. Douglas Smoot, declare as follows:

1. I am a resident of the State of Utah and a citizen of the United States of America.
2. I am over 21 years old and competent to testify on matters set forth in this Declaration. I am a minority owner (member) of the assignee of the above-identified patent application.
3. I have a Ph.D. degree from the University of Washington in Chemical Engineering.
4. I am skilled in the fuels field including the production of coke. My Curriculum Vitae is attached as Exhibit "A."
5. I have been provided a copy of the above-identified application as filed, a copy of two Office Actions respectively mailed December 26, 2002

and August 25, 2003, a copy of U.S. Patent 4,352,720, and a copy of two Amendments, one mailed April 17, 2003 and the other to be mailed contemporaneously with this Declaration.

6. I was asked to study and analyze the foregoing documents to determine if the above-identified application provides a written description of the invention as presently claimed. More specifically, I was asked if the present application discloses an apparatus and a process which comprises equipment and/or methodology by which the fines being displaced are washed or elutriated. I conclude, as one having skill in this art, that there is no disclosure of washing or elutriating of the fines being displaced using the equipment and methodology disclosed to produce coke. Thus, in my opinion, it is correct to say the limitations of "unwashed" and "non-elutriated" in the claims are properly supported by the present specification because the fines displacement are neither washed nor elutriated.

7. The above-identified patent application is directed to a lower cost way of using coal fines, including discarded coal fines, and coke fines, including discarded coke fines, to produce high grade coke.

8. The analysis of Weber (U.S. Pat. No. 4,352,720) found at pages 12-15 of the first Amendment is accurate. Weber discloses an expensive rather than a lower cost way of producing coke. Weber requires expensive equipment by which washed and wet coal from bin 2 is elutriated, by a stream of gas emanating at generator 10, up channel 5 and thence along three paths 20, 21, 23 as dried coal to bin 29.

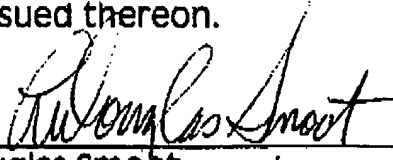
9. Weber's requirements of washed and wet coal and elutriation of fines are contrary to and contradict the concept disclosed and the limitations of the presently claimed subject matter of the above-identified patent application. Specifically, the present application does not disclose displacing washed and wet coal, nor is wet coal elutriated to dry the same prior to pyrolyzation. The technologies of Weber and the present patent application are very different.

10. Given that the present disclosure, which clearly avoids both washing to create wet coal fines and drying of wet coal by elutriation in the production of coke, it is appropriate to distinguish the claimed subject matter from Weber by use of the terms "unwashed" and "non-elutriated." The concept of "unwashed" and "non-elutriated" is unquestionably part of the initially disclosed subject matter of the above-identified patent application, is so understood by me, and would be so understood by anyone with skill in the art.

11. The drawings of the above-identified application also make it clear that the displacement of fines through the illustrated equipment does not result in washing of displaced fines or in drying of wet fines through elutriation.

12. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with

the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

  
\_\_\_\_\_  
L. Douglas Smoot

Date: \_\_\_\_\_

9/17/03

**EXHIBIT A**

## L. DOUGLAS SMOOT

### Curriculum Vitae

Winter 2003

#### I. SUMMARY

Dr. L. Douglas Smoot is Professor Emeritus of Chemical Engineering, Founding Director of the Advanced Combustion Engineering Research Center at Brigham Young University, and Dean Emeritus of the College of Engineering and Technology. He is also a consultant and expert witness in explosion, combustion, energy, environment and propulsion-related areas.

Dr. Smoot completed his graduate work at the University of Washington in 1960. He has been at Brigham Young University since 1967 and was Department Chairman from 1970 to 1977 and Dean from 1977 to 1994. Previous experience included four years at Lockheed, one year at California Institute of Technology, and summers with Hercules, Phillips Petroleum Company and Boeing. He has also consulted with about seventy companies and agencies in energy, combustion, fires and explosions, and chemical propulsion in the United States, Europe and the Orient. He has been a consultant and expert witness on many legal cases involving a variety of explosions and fires over the past two decades.

While serving as Dean from 1977 to 1994, the college external research budget increased by more than ten-fold, the number of faculty was increased by 35, and college majors more than doubled. He developed and implemented a five-year college development plan, a "profile" method for administering and evaluating departments, an effective teacher development program, and a building program to accommodate the rapid enrollment issue, including the new Crabtree Technology Building.

Since 1968, Dr. Smoot has served as principal investigator or project director at BYU on over \$35,000,000 in combustion-related research from industrial and governmental agencies including The Electric Power Research Institute, U.S. Bureau of Mines, NASA, Lockheed, the Navy Department, the U.S. Department of Energy (METC, PETC, GFPO), Utah Power and Light Co., Los Alamos National Laboratory, the National Science Foundation, Tennessee Valley Authority, Empire State Electric Energy Research Co. and several others. Areas of emphasis have included fossil fuel combustion and pollutant emissions, theory of combustion, rocket propulsion combustion, coal gasification, fires and explosions.

In May, 1986, Dr. Smoot was named the founding Director of the newly-organized Advanced Combustion Engineering Research Center, a joint effort with the University of Utah. This Center was sponsored by the National Science Foundation, the State of Utah, and fifty corporations and agencies in the United States, with an annual budget of about \$5,000,000 and with a goal to develop computer-aided design technology for advanced combustion systems. In this position, he directed the largest research program on the BYU campus which involved forty faculty and professionals and a hundred research students on the two campuses for twelve years.

He is a member of AIChE, ASEE, Combustion Institute and the National Fire Protection Association, and has received six state or regional awards. He has published over one hundred peer-reviewed papers and invited reviews, over 100 other technical articles, four books and five chapters in books on combustion, fires and explosions. He served on the Governor's Science and Technology Advisory Council for the State of Utah. He was given the 1985 Distinguished Faculty

Award at BYU and the same year received the University's Presidential Award. He also received the first Governor's Medal for Science and Technology in the State of Utah in 1987. In 1994, he was confirmed by the U.S. Senate as a congressional advisor to the Office of Technology Assessment. The university awarded Dr. Smoot a professorship in combustion in 1994. In 1995, he received the Outstanding Faculty Award in BYU's College of Engineering and Technology. Also, in 1995-1996, he served as Assistant Commissioner of the Church Educational System, spending part of his time developing humanitarian service opportunities in higher education in developing nations. In October of 2002, the U.S. Department of Energy, Fossil Energy Division, presented its most distinguished award, the Homer H. Lowry Gold Medal, to Dr. Smoot for outstanding contributions to the science and technology of fossil energy. And, in his community of Provo, he has donated over 1000 hours per year for the past eight years in service on three different councils, including chairing of a successful effort to rescue and preserve the historic Brigham Young Academy Building as the home of the city's new library.

## **II. ACADEMIC RANK POSITIONS**

Assistant Professor, 1960-63

Associate Professor, 1967-69

Professor, 1970-2002

Department Chairman, 1970-77

Dean, 1977-1994

Head, Combustion Laboratory, 1977-1990

Director, Advanced Combustion Engineering Research Center, 1986-1997

University Professorship in Combustion, 1994-2002

Professor Emeritus, 2003-

## **III. DEGREES AND SCHOOLS**

B.S., Chemistry, Brigham Young University, 1957

B.E.S., Chemical Engineering, Brigham Young University, 1957

M.S., Chemical Engineering, University of Washington, 1958

Ph.D., Chemical Engineering, University of Washington, 1960

Special Courses, Chemical Engineering, University of California, Los Angeles, 1965

Special Courses, Chemical Engineering, California Institute of Technology, 1966-67

## **IV. RELATED EXPERIENCE**

### **A. Teaching**

1953 Lab Instructor, Chemistry, Brigham Young University

1954-56 Instructor, Mathematics, Brigham Young University

1958-59 Teaching Assistant, University of Washington

1960-63 Assistant Professor, Brigham Young University

1966-67 Visiting Assistant Professor, California Institute of Technology

1967-2002 Associate Professor, Professor, Brigham Young University

2003- Professor Emeritus, Brigham Young University

**B. Industrial**

1956 (summer) Student Engineer, Boeing Airplane Company, Plastics Division, Seattle, Washington  
1957 (summer) Process Engineer, Phillips Petroleum Company, Atomic Energy Division, Bacchus, Utah  
1961-62 Senior Development Engineer, Hercules Power Company, Chemical Propulsion Div., Bacchus, Utah  
1963-67 Senior Technical Specialist, Supervisor, Project Engineer, Program Manager, Lockheed Propulsion Company, Redlands, California

**V. RECENT PUBLICATIONS (1993-2002)**

In the past decade, Dr. Smoot has edited and co-authored two new books on combustion, co-authored four combustion chapters in prominent encyclopedias, published six invited review articles, and twenty-two peer-reviewed papers based on original research. This list of publications totals over 230 in the past four decades.

**VI. BIOGRAPHY LISTINGS**

Who's Who in Technology Today  
Who's Who in the West  
Who's Who in America  
American Men and Women in Science

Who's Who in Consulting  
Who's Who in Aviation  
Who's Who in Engineering

**VII. COMPANIES CONSULTED FOR**

Hercules, Inc., Salt Lake City, Utah  
Thiokol Chemical Corporation, Brigham City, Utah  
Lockheed, Redlands, California and Sunnyvale, California  
Teledyne Corporation, Hollister, California  
Raytheon Corporation, Bedford, Massachusetts  
Redd and Redd, Salt Lake City, Utah  
Billings Energy Corporation, Provo, Utah  
Ford, Bacon and Davis, Salt Lake City, Utah  
Jaycor, Inc., Del Mar, California  
Atlantic Research Corporation, Arlington, Virginia  
Intel Com Radiation Technology, San Diego, California  
Physical Dynamics, Berkeley, California  
National Society of Propellants and Explosives, Paris, France  
DFVLR, West Germany  
Martin Marietta Corporation, Denver, Colorado  
Honeywell Corporation, Minneapolis Minnesota  
National Bureau of Standards, Washington, D.C.  
Systems, Science and Software, San Diego, California  
Lockheed Research Laboratories, Palo Alto, California  
Exxon Corp., Floram Park, New Jersey  
Los Alamos National Laboratory, New Mexico  
Phillips Petroleum Co., Bartlesville, Oklahoma  
Eyring Research Institute, Provo, Utah  
Utah Power & Light Co., Salt Lake City, Utah  
U.S. Department of Energy, Washington D.C.  
Tennessee Valley Authority, Chattanooga, Tennessee  
U.S. Department of Energy, Morgantown Energy Technology Center  
Mountain States Energy Co., Bozeman, Montana  
Energy and Environmental Research Corp., Irvine, California



Science Applications International Corporation, San Diego, California  
Argonne National Laboratory, Chicago, Illinois  
Kirkland And Ellis, Chicago, Illinois  
Continuum Corp., Huntsville, Alabama  
Bituminous Coal Research Institute, Pittsburgh, Pennsylvania  
Empire State Electric Energy Research Corp., New York, New York  
Supreme Council of Universities, Cairo, Egypt  
Intermountain Fuel Corporation, Salt Lake City, Utah  
Science Applications International, San Diego, California  
Carbon Fuels Inc., Denver, Colorado  
Howard, Lewis and Peterson, Provo, Utah  
TRW Corp., North Carolina  
ADA Corporation, Aurora, Colorado  
Geneva Steel, Provo, Utah  
Ray, Quinney and Nebeker, Salt Lake City, Utah  
Envirochem Corp., Orem, Utah  
Pacific Generation Co., Portland, Oregon  
Fisher and Hurst, San Francisco, California  
Kimball and Parr, Salt Lake City, Utah  
Wilcox, Dewsnup and King, Salt Lake City, Utah  
Anderson and Schwab, Inc., New York, New York  
Covol, Inc., Lehi, Utah  
Combustion Resources, LLC, Provo, Utah  
Bell, Metzner, Gierhart and Moore, S.C., Madison, Wisconsin  
Venturi Technologies, Orem, Utah  
Pacific Corp., Portland, Oregon  
Purwox, Inc., Las Vegas, Nevada  
MCNIC Pipeline and Processing Co., Detroit, Michigan  
Earthco Corp., Indianapolis, Indiana  
Keleher and McCloud, Albuquerque, New Mexico  
Butkus and Reimer, Albuquerque, New Mexico  
Simonsen, Hess and Leibowitz, New York, New York  
Broening, Oberg, Woods, Wilson and Cass, Phoenix, Arizona  
Holme, Roberts and Owen, Salt Lake City, Utah  
Johns and Flaherty, LaCross, Wisconsin  
Kasieta Legal Group, Madison, Wisconsin  
Dana G. Kirk, Houston, Texas  
Crowe and Scott, Phoenix, Arizona  
Kemp Law Firm, Dallas, Texas  
Mitchell, McNutt, et al., Jackson, Mississippi  
Cozen and O'Connor, San Diego, California  
Gary C. Mitchell, P.C., Ruidoso, New Mexico  
Dixon, Truman and Kelleher, Las Vegas, Nevada  
Berg, Simpson, Eldredge and Hersh, P.C., Englewood, Colorado  
Several others

### VIII. SCIENTIFIC AND PROFESSIONAL SOCIETY ACTIVITIES

Utah, Registered Professional Engineer No. 2732  
Member, Sigma Xi and Research Society of America  
Member, American Institute of Chemical Engineers  
Member, American Society for Engineering Education  
Member, Phi Lambda Epsilon  
Member, International Tripartite Technical Cooperative Program Attenuation Working Group, 1966-72  
Chairman, Ad Hoc Committee on Hybrid Combustion, U.S. Interagency Chemical Rocket Propulsion Group, 1965-67  
Chairman, Research Society of American (RESA), Lockheed Propulsion Company Branch, 1967  
Chairman, Technical Session, American Institute of Chemical Engineers National Mtg., Los Angeles, California, 1968  
Session Chairman, Aerospace Corporation Special Conference on Exhaust Volume Technology, July, 1968  
Program Chairman, Brigham Young University Engineering Symposium, 1962-63  
General Co-Chairman, National Meeting of 6th Joint Army-Navy-NASA-Air Force Plume Technology Conference  
Monterey, California, 1967  
Member, Papers Committee, International Combustion Institute Symposia, 1968-1980  
Board of Directors, Great Salt Lake Section, AIChE, 1972-1973  
Co-Chairman, Combustion Fundamentals Sessions, National AIChE Meeting, New Orleans, LA., November, 1981  
Governor's Science and Technology Advisory Council, State of Utah, 1979-1982  
U.S. Department of Energy, Coal Combustion Applications Working Group, 1982-83  
Co-Chairman, Engineering Dean's Institute, Salt Lake City, Utah, March 1982  
Member, Editorial Board, Progress in Energy and Combustion Science, 1982-present  
Member, Program Committee, International Combustion Symposium, 1984-present  
Member, Board of Directors, International Combustion Institute, 1984-1996  
Member, Board of Directors, Engineering Dean's Council, 1984-1990  
Member, FASAC Committee, for review of Soviet Low Energy Combustion Research, 1985-1986  
Member, Advisory Council, Office of Technology Assessment, Washington, DC, 1994-1995  
Member, National Fire Protection Association, 1998

### IX. HONORS AND AWARDS

Outstanding Graduate, BYU Chemical Engineering, 1957  
Graduated with Highest Honors, Brigham Young University, 1957  
Undergraduate Student Award, Outstanding Chemical Engineering Professor, 1970  
Panel Member, National Academy of Sciences, Plume Emissions Panel, 1972-73  
Outstanding Engineering Educator Award, State of Utah (EJC), 1975  
BYU Maeser Research Award, 1975  
Outstanding Aerospace Educator Award, State of Utah, 1975  
Outstanding Engineer, State of Utah (AIAA), 1977  
Educator of the Year, Society of Manufacturing Engineers-Region VII, Western United States, Pasadena, California, October 7, 1978  
Outstanding Alumnus Award, Springville High School, Utah, 1980  
Distinguished Faculty Lecturer, Brigham Young University, 1985  
Presidential Medal, Brigham Young University, 1985  
Governor's Medal for Science and Technology, State of Utah, 1987  
Chaired Professorship in Combustion, Brigham Young University, 1994  
Outstanding Faculty Member, College of Engineering and Technology, 1995  
Provo City Reed Smoot Community Service Award, Provo-Orem Chamber of Commerce, 1997  
Provo City Citizen of the Year Award, Provo Kiwanis Club, 1997  
Utah Heritage Foundation, Heritage Award, 1999  
Provo City Citizen of the Year Award, Provo-Orem Chamber of Commerce 2001  
U.S. Department of Energy, Homer H. Lowry Gold Medal, 2002

## X. RECENT EXPERT WITNESS WORK

1. Howard, Lewis, and Peterson, Provo, Utah  
*Consultants* - Drs. L. Douglas Smoot and Stephen K. Kramer  
*Firm contact* - Mr. Jackson Howard  
*Case (1984)* - Witnessed for the plaintiff who was injured in a dust explosion/fire while cleaning process equipment at a Gilsonite plant. The ignition and explosion characteristics of Gilsonite were identified and compared with coal and other dusts.
2. Howard, Lewis, and Peterson, Provo, Utah  
*Consultants* - Drs. L. Douglas Smoot and Stephen K. Kramer  
*Firm contact* - Mr. Jackson Howard  
*Case (1989)* - Witnessed for the plaintiff where plaintiff was injured while firing a black powder rifle with smokeless powder. The characteristics and burning rate of black powder and smokeless powder were compared. A computer model was developed to simulate effects. Testimony was provided at the trial.
3. Clyde, Pratt, Gibbs, and Cahoon, Los Angeles, California  
*Consultant* - Dr. L. Douglas Smoot  
*Firm contact* - Mr. Lee Pratt  
*Case (1985)* - Witnessed for the defendant in a case concerning a coal dust explosion and fire near a large power generating plant operated by the Nevada Power Company. Settled before trial.
4. Kimball and Parr, Salt Lake City, Utah  
*Consultant* - Dr. L. Douglas Smoot  
*Firm contact* - Mr. Steven Christiansen  
*Case (1988)* - Provided consulting services regarding pollutant emission regulations relating to the Geneva Steel plant in Utah County. Settled before trial.
5. Kirkland and Ellis, Chicago, Illinois  
*Consultants* - Drs. L. Douglas Smoot and Craig N. Eatough  
*Firm contact* - Mr. Robert Krupka  
*Case (1988)* - Witnessed for the defendant in Dow-Texaco trade secret case involving a large, industrial-scale coal gasification process. Different coal-water slurry delivery systems were analyzed and comparisons of similarities and differences in the two gasification processes were considered in light of public domain information. Settled before trial and depositions.
6. Fisher and Hurst, San Francisco, California  
*Consultants* - Drs. L. Douglas Smoot and Stephen K. Kramer  
*Firm contact* - Mr. Roland Stevens  
*Case (1989-1990)* - Witness was provided for the plaintiff concerning the origin and effects of a fire in the Wilberg coal mine that caused the deaths of 27 people. The autoignition and combustion of compressor oil in the air compressor was considered and calculated effects were matched with examination of the failed equipment. A computer model was developed of the crosscut fire and used to provide approximate times that were then matched to observations made by mine employees. Extensive testimony was provided during depositions and the trial.
7. Ray, Quinney, and Nebeker, Salt Lake City, Utah  
*Consultants* - Drs. L. Douglas Smoot and Craig N. Eatough  
*Firm contact* - Mr. Steven Aeschbacher  
*Case (1992)* - Witnessed for plaintiff who was burned while filling a five gallon gasoline can in the back of his pick-up. The possible sources of ignition were evaluated and the likely cause established. Settled before trial and depositions.

8. Wilcox, Dewsnup, and King, Salt Lake City, Utah  
*Consultants* - Drs. L. Douglas Smoot and Paul O. Berrett (EE)  
*Firm contact* - Mr. Brent Wilcox  
*Case (1994-1995)* - Witness for plaintiff who was badly burned in accidental fire during heating of oil prior to truck transport. Provided technical analysis on cause and origin.
9. Anderson and Schwab, New York  
*Consultants* - Dr. L. Douglas Smoot  
*Contact* - Mr. Van Tingley  
*Case* - Expert consultant for U.S. Justice Department accused of preventing development of a gasification project on Wyoming coal mine lands. Provided technical services. Case settled prior to depositions.
10. Wilcox, Dewsnup, and King, Salt Lake City, Utah  
*Consultants* - Drs. L. Douglas Smoot, Stephen K. Kramer, Craig N. Eatough and Scott C. Hill  
*Firm contact* - Mr. Jeffery Eisenberg  
*Case (1994-1997)* - Witness for the plaintiff who was badly burned while laying carpet in the basement of a home while using a volatile contact cement. Fire cause was confirmed and cement conformance with regulations investigated. Provided depositions. Case settled following depositions (September, 1997).
11. Kimball, Parr, Waddoups, Brown and Gee, Salt Lake City, Utah  
(Subsequently Johnson and Hatch, Salt Lake City, Utah)  
*Consultants* - Drs. L. Douglas Smoot, Craig N. Eatough and Scott C. Hill  
*Firm Contacts* - Mr. Clark Waddoups, Mr. Paul Drecksel  
*Case (1997-1998)* - Geneva Steel vs. Commerce and Industry Insurance Co. Witness for plaintiff (Geneva Steel Co.) whose coke batteries were allegedly damaged during a power outage. Conducted computerized analysis of pressure and temperature transients. Depositions provided. Case settled, August, 1998.
12. Bell, Metzner, Gierhart and Moore, Madison, Wisconsin  
(Subsequently Robert Kasieta Legal Group, Madison, Wisconsin)  
*Consultants* - Drs. L. Douglas Smoot, Craig N. Eatough and Scott C. Hill  
*Firm Contact* - Mr. Houston Parrish (Subsequently Mr. Robert Kasieta)  
*Case (1996-1997)* - Olsen vs. Northern Engraving, et al. Witness for defendant (AAR Power Boss, Inc.) in an acetone vapor-liquid fire during floor cleaning at an industrial site with a floor scrubber. Provided analyses and opinions on behavior of acetone. Depositions provided. Case settled with defendant following depositions (October, 1997).
13. Butkus and Reimer, P.C., Attorneys at Law, Albuquerque, New Mexico  
(Subsequently Kelcher and McLeod, P.A., Albuquerque, New Mexico)  
*Consultants* - Drs. L. Douglas Smoot, Craig N. Eatough, Brent Strong and David Jensen  
*Firm Contact* - Mr. R. Galen Reimer (Subsequently Mr. M. Charles Pharris)  
*Case (1997-1999)* Witness for the defendant in Langley vs. Maytag Corp. Providing consulting services, fire analysis and testimony for the defendant (Maytag Corp.) on a fire at a Carrizozo, NM ranch house in 1994. Fire allegedly started by overheated freezer. Depositions in January and May, 1998. Case settled, Feb. 1999.
14. Johns and Flaherty, S.C., Attorneys, La Crosse, Wisconsin  
*Consultants* - Drs. L. Douglas Smoot and Scott C. Hill  
*Firm Contact* - Mr. Michael L. Stoker  
*Case (1997-1998)* - Olsen vs. Northern Engraving, et al. Consultant for plaintiff (Mr. Gilbert Olsen) to perform computerized fire-site simulations for the acetone vapor-liquid fire in 1994 during floor cleaning with a scrubber at an industrial site. Case settled before depositions on this part of the case.

15. Holme, Roberts and Owen, LLP, Salt Lake City, Utah  
*Consultants* - Drs. L. Douglas Smoot, Craig N. Eatough and David Jensen  
*Firm Contacts* - Mr. George M. Haley, Mr. Gregory J. Savage  
*Case (1997-)* - Clayton vs. Alpine Supply Co. Witness for plaintiff injured in an explosion of a gas-fired fireplace insert in July, 1997. Conducted analyses of fireplace and incident and reviewed standards. Case active; depositions, August, 1999. Case settled, October 1999.
16. Simonsen, Hess and Leibowitz, P.D., New York, New York  
*Consultants* - Drs. L. Douglas Smoot, Craig N. Eatough, Geoffrey J. Germane and Mr. Robert Jackson  
*Firm Contact* - Mr. Alan B. Leibowitz  
*Case (1998-)* - Hickey vs. Chrysler Corp./Lazar's Auto Sales. Witness for plaintiff on fire/explosion origin and cause during 1990 Jeep Wrangler rollover and fire in April, 1992, near Mt. Kisco, NY, where driver was fatally injured. Case settled, October 1999.
17. Broening, Oberg, Woods, Wilson and Cass, P.C., Phoenix, Arizona  
*Consultants* - Drs. L. Douglas Smoot and Craig N. Eatough  
*Firm Contact* - Mr. James R. Broening, Mr. Bruce Preston  
*Case (1998-)* - ASARCO vs. Geneva Steel, et al. Witness for defendant, Geneva Steel, regarding an explosion in January, 1996, in a slag-cleaning furnace at a copper smelter in Hayden, AZ, allegedly from use of coke breeze product provided by the defendant. Two workers were injured. File completed, deposition, mid 2002; case pending.
18. Dana G. Kirk Law Offices, Houston Texas.  
*Consultants* - Dr. L. Douglas Smoot  
*Firm Contact* - Mr. Dana G. Kirk  
*Case (1999-2000)* - Witness for Plaintiffs vs. Formosa Chemical Company. Explosion of Ethylene Dichloride plant, injuries reportedly of 45 people. Preliminary information provided, no further action.
19. Crowe and Scott, P.A., Phoenix, Arizona.  
*Consultants* - Drs. L. Douglas Smoot and Dale R. Tree, Mr. Robert E. Jackson  
*Firm Contact* - Mr. Thomas Crowe  
*Case (1999-)* - Witness for defendants in Federal Government vs. Knight, et al. Blending of diesel fuel with heavier fuel oil for transportation fuel. Criminal case settled.
20. Kemp Law Firm, Dallas, Texas.  
*Consultants* - Drs. L. Douglas Smoot and Scott S. Hill; Mr. Robert Jackson.  
*Firm Contact* - Mr. David O. Kemp  
*Case (1998-1999)* - Witness for plaintiffs in Delta Counseling Associates, Inc. vs. Doss Heating and Air Conditioning Co., Inc., et al. (No. Civ. 95-21-2). Nighttime fire (Jan. 15, 1993) in counseling center, allegedly caused by improperly installed natural gas furnace; destroyed building in Lake Village, Arkansas. Depositions, August, 1999; case settled, October, 1999.
21. Mitchell, McNutt, Threadgill, Smith and Sams, P.A., Jackson, Mississippi.  
*Consultants* - Drs. Geoffrey Germane (Germane Engineering) Scott C. Hill, Craig N. Eatough, L. Douglas Smoot.  
*Firm Contacts* - Miles Parker and Tim Warren  
*Case (1999-)* Witnesses for plaintiffs. Coal-fired utility furnace exploded in Kansas City, Kansas, Feb. 17, 1999 during furnace planned downtime. Preliminary cause investigation. No complaint filed. Case terminated.

22. Cozen and O'Connor Law Offices, San Diego, California  
*Consultant* - Dr. L. Douglas Smoot  
*Firm Contact* - Mr. Kevin D. Bush  
*Case (1999-2000)* - Consultant for plaintiff. Explosion of crude oil storage tank in Woods Cross, Utah, on Nov. 12, 1998. Conducted preliminary analysis. No complaint filed. Case terminated after preliminary investigation.
23. Dewsnap, King and Olsen, Law Offices, Salt Lake City, Utah  
*Consultant* - Dr. L. Douglas Smoot  
*Firm Contact* - Mr. Jeffrey D. Eisenberg  
*Case (1999-2000)* - Consultant for the plaintiff. Ammonium perchlorate (AP) in a bag - house cleaning system at an AP manufacturing plant near Cedar City, Utah caught fire during manual cleaning on July 30, 1997, with one worker killed, another seriously injured. Preliminary investigation completed. Case inactive.
24. Gary C. Mitchell, P.C., Law Offices; Ruidoso, New Mexico  
*Consultant* - Dr. L. Douglas Smoot  
*Firm Contact* - Ms. Shawn M. Boyne, Mr. Gary C. Mitchell  
*Case (2000-)* - Consultant for the plaintiff. Ignition and severe fire inside a moving pickup truck cab on Jan. 24, 1998 where a container of smokeless gun powder was being transported from gunshop to home. Two serious injuries. Complaint filed; some depositions taken. Investigation completed. No further action.
25. Dixon and Truman, Law Offices, Las Vegas, Nevada  
*Consultant* - L. Douglas Smoot  
*Firm Contacts* - Thom Gover, Bryce Dixon  
*Case (2000-)* - Consultant for the plaintiff. On Feb. 27, 1999, a fire occurred when the defendant was filling small gasoline cans in a lined truck bed; he was seriously injured. Technical work ongoing. Site and vehicle inspection were completed. Deposition taken, 2002. Case settled, 2002.
26. Berg, Simpson, Eldredge, Hersh P.C., Englewood, Colorado  
*Consultant* - Dr. L. Douglas Smoot  
*Firm Contact* - Mr. Joseph Kaupie  
*Case (2000-)* - Consultant for the plaintiff. A direct-vent fireplace exploded in Breckenridge, Colorado at 7000 ft. altitude. Preliminary work conducted. Case inactive.
27. Bues, Gilbert, Phoenix, Arizona  
*Consultant* - Dr. L. Douglas Smoot  
*Firm Contact* - Mr. Joseph B. Pierce  
*Case (2000-)* - Witness for the plaintiff. Mr. Knight v. U.S. Government. Mr. Knight was acquitted as a defendant in a criminal case wherein he allegedly had fraudulently blended and marketed truck diesel fuel in Arizona that did not meet specifications. Following settlement of criminal case (2000), the plaintiff filed a complaint against the federal government for damages resulting from the federal suit. Technical work on-going. Deposition anticipated. Case pending.
28. Williams, Dailey, and O'Leary, P.C., Portland, OR.  
*Consultant* - Dr. L. Douglas Smoot  
*Firm Contact* - Kathleen M. Dailey  
*Case (2001)* - Consultant for the plaintiff. Plaintiff was injured in head on automobile collision and subsequent fire. Consultant provided preliminary consulting services. No complaint filed.

29. Phelps Dunbar, LLP  
New Orleans, LA  
*Consultant* - Dr. L. Douglas Smoot  
*Firm Contacts* - Barbara L. Arras, Neil Abramson, Steven LeVine  
*Case (2001- )* - Consultant for the defendant. Union Pacific train derailment near Unice, LA with about 30 cars containing various flammable chemicals derailed with a massive fire occurring. Initial analysis completed, file prepared, deposition given at certification hearing, August, 2001; additional report prepared, fall, 2002; case pending.
30. Strong and Hanni, Law Offices, Salt Lake City, Utah  
*Consultants* - Dr. Craig N. Eatough, Dr. L. Douglas Smoot  
*Firm Contact* - Michael Ford  
*Case (2001- )* - Consultants for the plaintiff. Home radiant heating boiler was alleged to have started a fire within the home. Provided case directions to principal consultant. Investigation initiated. Case pending.
31. MacArthur Moten, P.C., St. Louis, MO  
*Consultants* - Dr. Craig N. Eatough, Dr. L. Douglas Smoot  
*Firm Contact* - MacArthur Moten  
*Case (2001- )* - Consultants for the plaintiff. Home heating natural gas furnace allegedly leaking carbon monoxide. Plaintiff complained of discomfort. Discussed directions with principal consultant; case pending.
32. Edwards, Frickle, Halversen and Ames-Hughes, Billings, MT  
*Consultants* - Dr. N. Stanley Harding, Dr. L. Douglas Smoot  
*Firm Contact* - Mr. Roger Frickle  
*Case (2001- )* - Consultants for the plaintiff. Plaintiff was badly burned when a large ash clinker fell and water from the bottom hopper of a utility boiler. Investigation completed. Case settled before trial, 2002.
33. Barne, Guzy and Steffon, completed LTD, Minneapolis, MN.  
*Consultants* - Dr. N. Stanley Harding, Dr. L. Douglas Smoot  
*Firm Contact* - Mr. John Buchman  
*Case (2002- )* - Consultants for the plaintiff. The plaintiff was badly burned when hot ash fell from inclined walls of wood-burning furnace while furnace was shut down for cleaning. Investigation just initiated. Case active.
34. Ellison Nielson Knibbs Zone and Antas, P.C. San Francisco, CA.  
*Consultants* - Mr. Robert Jackson; Dr. L. Douglas Smoot  
*Firm Contact* - Mr. Richard M. Ozowski  
*Case (2002- )* - Consultant for the defendant; accidental fire occurred in a church meeting house during a time when heavy equipment construction was on-going outside. Investigation initiated; preliminary report prepared; case pending.
35. Dixon and Truman Law Offices, Las Vegas, NV.  
*Consultant* - Dr. L. Douglas Smoot  
*Firm Contact* - A. Bryce Dixon, general partner.  
*Case (2002- )* - Consultant for the plaintiff. On June 8, 2002, plaintiff was badly burned and two vehicles were destroyed in a fire at the Town Pump station of Townsend, MT. Plaintiff was filling two metal cans in back of pickup truck with plaster bed liner at the time of the fire. Investigation initiated, case active.